Although hollow post 144 serves several functions, initially it is noted that coil spring 140, which biases shield member 126 toward a distal-most position is positioned around hollow cylindrical post 144. Thus, hollow post 144 assists in alignment of coil spring 140, e.g., to prevent kinking thereof. Referring temporarily to FIG. 24, the diameter of coil spring 140 is preferably selected so that spring 140 fits in a gap region between concentrically disposed collar 130 and hollow post 144.

Housing cover 120 is further provided with an open ended slot 146 (FIGs. 2 and 14) to slidably receive position indicator flag 132. Housing cover 120 may further be provided with indicia (not shown) positioned adjacent open ended slot 146 to provide additional visual indication to the user of the relative positioning of the shield, as is known in the art.

As noted above, the shield member 126 (and therefore the entire shield assembly) is biased in a distal-most position by coil spring 140. A latching mechanism is provided as part of obturator assembly 110 to prevent proximal movement of the shield assembly until such a time as obturator assembly 110 is inserted in a cannula assembly, e.g., cannula assembly 112, and the surgeon is prepared to begin trocar entry.

As best shown in FIGs. 4-6, the latching mechanism includes latch member 150 having two vertical leg portions 152 and 154 connected by a web portion 155. A pair of biasing posts 157, 159 extend outwardly, one for each side of latch member 150. Latch member 150 is preferably molded as part of housing base 119 in cantilevered fashion. However, latch 150 may be formed as a separate element and secured to base 119 by suitable known techniques.

A release member such as slider 156 is distally biased by a coil spring 158 which is maintained in axial alignment with a lower end of slider 156 by a post 160. The proximal end of coil spring 158 bears against the inner surface of housing cover 120 and is maintained in position between a post 162 and a cylindrical base 164 formed in housing cover 120 (FIG. 14). The distal biasing of slider 156 causes an arming button 166, which extends distally from the distal face of slider 156, to project through an opening formed in the housing base 119 (FIG. 24). Compression of obturator assembly

110 relative to cannula assembly 112 causes slider 156 to translate vertically in a proximal direction as will be described further herein. As shown in FIG. 6, slider 156 includes a pair of legs 156a, 156b which are each connected to a base portion 156c and terminate in a crook 156d, 156e configured and dimensioned to engage posts 157, 159 respectively, of latch 150.

In a preferred embodiment, the components described above, namely housing base 119, housing cover 120, the latching mechanism components, coil spring 140, cylindrical extended portion 138 and elongated shield member 126 constitute a first modular subassembly that may be advantageously manufactured in large quantities and inventoried for use across a wide range of trocar assembly sizes. As noted hereinbelow, other modular subassemblies may be manufactured to different size specifications, e.g., 5mm, 10mm, 15mm, but all would be functionally operable with the first modular subassembly disclosed herein.

Referring to FIGS. 3 and 7-11, assembly of a second modular subassembly including knife blade 125 will now be addressed in detail. Knife blade 125 is preferably fabricated from stainless steel by a suitable process, e.g., by stamping or metal injection molding.

A proximally extending elongated portion 168 is provided to facilitate attachment of knife blade 125 to a knife rod 170. Elongated proximal portion 168 is provided with a slot 172 and a notch 174. Preferably, knife rod 170 is formed by injection molding. Knife blade 125 is positioned in the injection mold such that when the rod material is injected into the mold, the material flows around a web portion 176, FIG. 10, which separates slot 172 and notch 174. When the material rejoins at slot 172, it forms a knit-line 178, FIG. 11, and attaches knife blade to the distal end of knife rod 170. Preferably, slot 174 is provided with an arcuate distal terminus 180 in the shape of a "cul de sac" to permit the rod material to flow outwardly and fill terminus 180. Knife blade 125 is further provided with a pair of lateral notches 182, 184 formed on either side of

web portion 176. Notches 182, 184 facilitate proper orientation of knife blade 125 in the injection mold prior to formation of knife rod 170. Finally, knife blade 125 has a pair of sharpened cutting edges 186, 188, which converge to form a sharp penetration point.

Referring to FIGs. 7, 8, 10 and 11, knife rod 170 has a flexible finger 190 formed at a proximal end. Flexible finger 190 includes a cam surface 192 extending outwardly at a proximal end to facilitate assembly of knife rod 170 with housing cover 120, as will be described in greater detail herein.

Referring now to FIGs. 12-20, a novel method of assembly of obturator assembly 110 is disclosed. As shown in FIG. 12, shield member 126 and slider 156 are fit into base 119. Shield member 126 rides over slider 156 causing the slider's legs 156a, 156b to ride on top of posts 135 on shield member 126. Slider 156 fits over guide posts 119a, 119b and 119c such that base portion 156c is disposed between post 119a and posts 119b, 119c. Further, legs 156a, 156b are disposed on the outboard sides of posts 119b, 119c, respectively. Shield spring 140 and slider spring 158 are added, as shown in FIG. 13, and housing cover 120 is snapped in place as described above. Referring to FIGs. 15 and 16, shield extension 127 is then snapped into place at the distal end of slider 126. In particular, shield extension 127 has a clevis formed at a proximal end defining two flexible halves. A pair of nubs 127a, 127b snap fit into receiving holes 148 on shield member 126.

Referring to FIGs. 17-19, knife rod 170 is slid in through the distal end of shield extension 127, through shield 126, and snapped in place in housing cover 120. As shown in FIGs. 18 and 19, insertion of knife rod 170 into hollow cylindrical post 144 of housing cover 120 causes cam surface to flex finger 190 until cam surface 192 is adjacent recess 193 formed in housing cover 120 whereby camming surface enters recess 193 to secure knife rod 170 in cover 120.

Referring to FIGs. 20-22, guard 128 is attached to distal end of shield extension 127. To facilitate attachment, guard 128 is provided with a series of flexible fingers 128a, 128b, 128c, 128d each having a raised portion formed thereon. The raised portions lock in place in openings such as opening 127a formed near the distal end of